Prevention of Significant Air Quality Deterioration Review

Final Determination

March 2017

Facility Name: Hyalus, Inc.
City: Hawkinsville
County: Pulaski
AIRS Number: 04-13-23500027
Application Number: 24026
Date Application Received: October 13, 2016

State of Georgia
Department of Natural Resources
Environmental Protection Division
Air Protection Branch

Karen Hays – Chief, Air Protection Branch

Stationary Source Permitting Program

Eric Cornwell
Heather Brown
Joe Aisien

Planning & Support Program

Di Tian
Yan Huang

BACKGROUND

On October 13, 2016, Hyalus, Inc. (hereafter Hyalus) submitted an application for an air quality permit to construct and operate a facility for the manufacture of specialty glass fibers. The facility is to be located at 106 Industrial Boulevard in Hawkinsville, Pulaski County. The Hyalus facility will be owned and operated by Hollingsworth and Vose. The proposed project will consist of material handling operations, a cold-top electric glass melting furnace, natural gas heated forehearth channels for the melted glass, and forty-four spinning machines (fiberizers) where the glass fiber is attenuated. The permit has been updated to include reference to the furnace canal (CANA) and furnace distributor (DIST).

The sources of emissions include the raw material handling, the glass melting furnace, the forehearth unit, the fiberizers, the emergency generator, and the cooling towers.

On February 13, 2017, the Division issued a Preliminary Determination stating that the modifications described in Application No. 24026 should be approved. The Preliminary Determination contained a draft Air Quality Permit for the construction and operation of the equipment.

The Division requested that Hyalus place a public notice in a newspaper of general circulation in the area of the existing facility notifying the public of the proposed construction and providing the opportunity for written public comment. Such public notice was placed in the *Hawkinsville Dispatch & News* (legal organ for Pulaski County) on February 15, 2017. The public comment period expired on March 17, 2017. Upon request of Hyalus, a Public Hearing was held by the Division on March 14, 2017. No comments were received at the hearing.

During the comment period, comments were received from the facility which resulted in a slight change to the permit. No comments were received from US EPA or the general public.

It is the final determination of EPD that Permit 3296-235-0027-P-01-0, as revised, be issued to Hyalus for the construction and operation of a specialty glass fiber facility.

A copy of the final permit is attached. A summary of the comments on the draft permit, followed by EPD response and changes made to permit are on the following pages.

FACILITY COMMENTS

Comments were received from Russell Wright, Hollingsworth and Vose Global Director of Environment, Health & Safety, by email on February 25, 2017.

Comment 1
Updated PFD. Inclusion of additional control elements (CANA & DIST) in the forehearths.

As discussed last Tuesday, here is an updated PFD for the Hyalus project. The key changes are:

1. *Rearrangement of the rotary fiberizers…this change is already reflected in the draft permit*

2. *Inclusion of additional control elements (CANA & DIST) in the forehearths. As discussed, this change reflects increased granularity into the design of how the forehearths will actually be operated. The canal and distributor will exhaust through the existing FHTH stack and, while not explicitly listed, were included in the original flows that were modeled.*

    a. *We had discussed that it would probably be relevant to add the descriptor CANA and DIST to the current draft permit descriptor, "FORA, FORB, FORC, and FORD".*

    b. *The revised wording would then be "CANA, DIST, FORA, FORB, FORC,FORD"*

We can discuss this in more detail during our scheduled Monday morning call at 11:00. I also have an additional topic that I would like to discuss regarding items 3.2.7 and 3.2.8 in the draft permit.

EPD Response

EPD has made the requested changes by including CANA and DIST as additional emission units ID No. descriptors in the forehearth unit. This change does not affect any limits or the overall emissions from the facility.

Comment 2
Convert BACT limits in Condition 3.2.7 and 3.2.8 from lb/ton glass to lb/mmcf natural gas to keep consistent.

Thanks for the discussion Monday morning. As mentioned, permit conditions 3.2.7 and 3.2.8 could be problematic as written due to the form of the emission limits they contain. I have recently recognized that the consumption of natural gas, and therefore expected emission rates from the forehearth units, are not linear to the production rate of the furnace. As a result, a pounds-per-ton-of-glass limit could be somewhat arbitrary under certain operating conditions. Our proposal is to modify the permit conditions to be similar to the condition in 3.2.6 where the limit is expressed in lb/MMscf of natural gas fired through the forehearth units (ID Nos. CANA, DIST, FORA, FORB, FORC, FORD). A NOx and CO limit expressed in lb/MMscf will be sufficient to ensure that good combustion (which is BACT for those pollutants) is achieved. Thus, the relevant emission limits, consistent with the modeling performed for our application, would be:

3.2.7 would have a limit of 55.6 lb/MMSCF of CO
3.2.8 would have a limit of 13.2 lb/MMSCF for NOx

Conversion from Glass basis to MMscf

0.052 lbs NOx/ton glass x 27,375 tons glass/year = 1,473.5 lbs NOx/year
1,473.5 lbs NOx/year / 108 MMscf natural gas/year = 13.18 lbs NOx/MMscf natural gas

0.22 lbs CO/ton glass x 27,375 tons glass/year = 6,022.5 lbs CO/year
6,022.5 lbs CO/year / 108 MMscf natural gas/year = 55.76 lbs CO/MMscf natural gas

EPD Response

EPD agrees that emissions per amount of natural gas is a better measure and has made the requested changes to Conditions 3.2.7 and 3.2.8. This change in emission limits does not change the overall allowable emission rate. EPD further points out that the NOx limit that represents a BACT of "good combustion practices" appears lower than expected from a unit without low-NOx technology. NOx emissions from the forehearth will be less than 1 ton per year at this limit.

EPD also notes that there is a typo in the conversion calculation submitted by Hollingsworth and Vose: 1473.5 lb NOx/year should read 1423.5 lb/NOx/year. The final value remains the same.

PERMIT CHANGES

The facility description and several conditions are updated to include the newly identified parts of the forehearth furnace canal (CANA) and furnace distributor (DIST).

Conditions 3.2.7 and 3.2.8 are modified to change the NOx and CO limits on the forehearth from a lb emission per ton of glass pulled basis to a lb emission per million cubic foot of gas consumed basis.

Condition 4.2.1 is modified to require that natural gas usage from the forehearth system be tracked during the stack testing.